

Notice of Allowability

Application No.

10/628,526

Examiner

Kim-Kwok CHU

Applicant(s)

BROWN ET AL.

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 5/14/2007.
2. ☒ The allowed claim(s) is/are 1, 2, 4-12, 20-24, 26-36 and 38 which are renumbered as 1-28 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An Examiner's Amendment to the record appears below.
Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.
2. The Amendment filed on May 14, 2007 has been amended as follows:
 - (a) on page 3, Claim 4, line 1, the term "of claim 4" has been changed to --of claim 1--.
3. Note: the above amendment is made to correct a typo error of claim 4's dependence.

Allowable Subject Matter

4. Claims 1, 2, 4-12, 20-24 and 26-35 are allowable over prior art.

5. The following is an Examiner's statement of reasons for the indication of allowable subject matter based on the Supplemental Preliminary Amendment filed on May 17, 2007:

As in claims 1, the prior art of record fails to teach or fairly suggest a method of detecting a variation in resistance within a layered material stack in response to a scanning and injection of a non-contacting, remotely sourced electron stream having steps of detecting the first resistive state of the variable resistive layer in response to a distribution ratio of electrons from the electron stream flowing toward the first conductive contact layer; and detecting the second resistive state of the variable resistive layer in response to a distribution ratio of electrons from the electron stream flowing toward the second conductive contact layer.

As in claim 20, the prior art of record fails to teach or fairly suggest a method of detecting a variation in resistance within a layered material stack in response to a scanning and injection of a non-contacting, remotely sourced electron stream where the layered material stack having a first and second conductive contact layers, a variable resistive information

storage layer, a fixed resistive layer , and a third resistive layer being positioned between the first and second conductive contact layers.

As in claim 29, the prior art of record fails to teach or fairly suggest that system having an energy source, a data storage medium and a transformer. The transformer having a first winding operatively coupled to the first conductive contact layer to provide the anode voltage from the power supply to the first conductive contact layer, a second winding operatively coupled to the second conductive contact layer to provide the anode voltage from the power supply to the second conductive contact layer, and a third winding configured to output a signal associated with one of a first resistive state and a second resistive state of the variable resistive layer in response to the difference between a first magnetic field and a second magnetic field generated by the first and second windings, the first and second windings being in a differential configuration relative to each other to generate the first and second magnetic fields based on a difference in current, and to detect a difference in current between the first and second conductive contact layers in response to the injection and distribution of the electron stream into the material stack.

The features indicated above, in combination with the

other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington, can be reached on (571) 272-4483.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

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May 22, 2007
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ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER